

ABSTRACT OF THE DISCLOSURE

A semiconductor production apparatus for etching a semiconductor wafer arranged in a container and having a film on the surface thereof, by a plasma generated in the container is disclosed. The temporal change of the amount of light is detected for at least two wavelengths obtained from the wafer surface for a predetermined period of the processing time. The etching condition is determined by comparing a predetermined time with the time length between a time point at which the temporal change amount of the light of one of the two wavelengths assumes a maximum value and a time point at which the amount of light of the other wavelength assumes a minimum value.